

WO 03/064473

burioni.ST25.txt
SEQUENCE LISTING

<110> Burioni, Roberto

<120> HUMAN MONOCLONAL ANTIBODY FAB FRAGMENTS DIRECTED AGAINST HCV E2
GLYCOPROTEIN AND ENDOWED WITH IN VITRO NEUTRALIZING ACTIVITY

<130> 30068

<150> IT RM2002A/000049

<151> 2002-01-30

<160> 24

<170> PatentIn version 3.1

<210> 1

<211> 119

<212> PRT

<213> Homo sapiens

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1 5 10 15Lys Val Ser Cys Gln Ser Ser Arg Tyr Thr Phe Thr Ser Tyr Gly Ile
20 25 30Gly Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Trp
35 40 45Ile Ser Gly Tyr Thr His Glu Thr Lys Tyr Ala Gln Ser Phe Gln Gly
50 55 60Arg Val Thr Met Thr Ala Glu Thr Ser Thr Gly Thr Ala Tyr Met Glu
65 70 75 80Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Thr Tyr Tyr Cys Ala Arg
85 90 95Asp Gly Gly Gly Arg Val Val Val Pro Pro Thr His Leu Arg Ala Phe
Pagina 1

100

burioni.ST25.txt
105

110

Asp Val Trp Gly Gln Gly Thr
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<210> 2

<211> 104

<212> PRT

<213> Homo sapiens

<400> 2

Met Ala Glu Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
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35 40 45Ile Ser Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser
50 55 60Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
65 70 75 80Pro Asp Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Asp Ser Pro
85 90 95Leu Tyr Ser Phe Gly Gln Gly Thr
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<210> 3

<211> 124

<212> PRT

<213> Homo sapiens

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20 25 30Val Ser Tyr Trp Gly Trp Val Arg Gln Ser Pro Gly Lys Gly Leu Glu
Pagina 2

burioni.ST25.txt

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 35 | 40 | 45 | | | | | | | | | | | | | |
| Trp | Ile | Gly | His | Ile | Tyr | Tyr | Phe | Gly | Asp | Thr | Phe | Tyr | Asn | Pro | Ser |
| 50 | | | | | | 55 | | | | | 60 | | | | |
| Leu | Asn | Asn | Arg | Ala | Thr | Ile | Ser | Ile | Asp | Ser | Ser | Lys | Asn | Gln | Phe |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Ser | Leu | Lys | Leu | Lys | Ser | Val | Thr | Ala | Ser | Asp | Thr | Ala | Leu | Tyr | Phe |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Cys | Ala | Arg | Ser | Thr | Leu | Gln | Tyr | Phe | Asp | Trp | Leu | Leu | Thr | Arg | Glu |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ala | Ala | Tyr | Ser | Ile | Asp | Phe | Trp | Gly | Gln | Gly | Ile | | | | |
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| <211> | 102 |
| <212> | PRT |
| <213> | Homo sapiens |

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Met  Ala  Glu  Leu  Thr  Gln  Ser  Pro  Ser  Phe  Leu  Ser  Ala  Ser  Val  Gly
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Asp  Arg  Val  Thr  Ile  Thr  Cys  Arg  Ala  Ser  Gln  Gly  Val  Thr  Ile  Leu
      20     25     30

Leu  Ala  Trp  Tyr  Gln  Gln  Lys  Pro  Gly  Lys  Pro  Pro  Lys  Ala  Leu  Ile
      35     40     45

Tyr  Ala  Ala  Ser  Ser  Leu  Gln  Ser  Gly  Val  Pro  Ser  Arg  Phe  Ser  Gly
      50     55     60

Ser  Gly  Ser  Asp  Thr  Asp  Phe  Thr  Leu  Thr  Ile  Ser  Ser  Leu  Gln  Pro
65     70     75     80

Glu  Asp  Ser  Ala  Thr  Tyr  Tyr  Cys  Gln  Gln  Leu  Asn  Thr  Tyr  Pro  Trp
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Thr  Phe  Gly  Gln  Gly  Thr
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burioni.ST25.txt

<213> Homo sapiens

<400> 5

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Lys Val Ser Cys Lys Ala Ser Gly Asp His Tyr Gly Ile Asn Trp Val
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Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Gly Ile Ile Pro
 35 40 45

Val Phe Gly Thr Thr Thr Tyr Ala Gln Lys Phe Gln Gly Arg Ala Thr
 50 55 60

Ile Thr Ala Asp Asp Ser Thr Gly Thr Ala Phe Leu Glu Leu Thr Arg
 65 70 75 80

Leu Thr Phe Asp Asp Thr Ala Val Tyr Phe Cys Ala Thr Pro His Gln
 85 90 95

Leu His Val Leu Arg Gly Gly Lys Ala Leu Ser Pro Trp Asp Tyr Trp
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Gly Gln Gly Thr
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<210> 6

<211> 102

<212> PRT

<213> Homo sapiens

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 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Arg Gly Gln Ala Pro Ser Leu Leu Ile
 35 40 45

Tyr Gly Thr Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser

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65                               burioni.ST25.txt                               80
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Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Asp Trp Pro Ser
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$\langle 211 \rangle$ 120

<212> PRT

<213> Homo sapiens

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Lys Val Ser Cys Lys Thr Ser Gly Gly Thr Phe Ser Thr Tyr Thr Phe
20 25 30

Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Gly
35 40 45

Ile Thr Pro Ile Ile Gly Ile Ala Asn Tyr Ala Arg Asn Phe Gln Asp
50 55 60

Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Val Tyr Met Glu
65 70 75 80

Val Arg Arg Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Lys
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Thr Ser Glu Val Thr Ala Thr Arg Gly Arg Thr Phe Phe Tyr Ser Ala
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Met Asp Val Trp Gly Gln Gly Thr
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<210> 8

<211> 102

<212> PRT

<213> Homo sapiens

<400> 8

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Pagina 5

burioni.ST25.txt

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 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Ala Ala Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Trp Thr Glu Phe Thr Leu Thr Ile Ser Arg Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln His Leu Asn Thr Tyr Pro Trp
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Thr Phe Gly Gln Gly Thr
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<210> 9

<211> 118

<212> PRT

<213> Homo sapiens

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Leu Leu Glu Gln Ser Gly Ser Glu Val Lys Lys Pro Gly Ser Ser Val
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 20 25 30

Asn Trp Leu Arg Gln Ala Pro Gly Gln Gly Pro Glu Trp Met Gly Gly
 35 40 45

Ile Ile Pro Leu Phe Arg Arg Thr Thr Tyr Gly Gln Lys Phe Gln Gly
 50 55 60

Arg Leu Thr Ile Thr Ala Asp Glu Ser Thr Gly Ala Thr Tyr Met Glu
 65 70 75 80

Leu Ser Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys Ala Arg
 85 90 95

Glu Lys Val Ser Val Leu Thr Gly Gly Lys Ser Leu His Tyr Phe Glu
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Tyr Trp Gly Lys Gly Thr

burioni.ST25.txt

115

<210> 10

<211> 102

<212> PRT

<213> Homo sapiens

<400> 10

Met Ala Glu Leu Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Arg
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Arg Gly Gln Ala Pro Ser Leu Leu Ile
 35 40 45

Tyr Asp Thr Ser Ser Arg Ala Thr Gly Val Pro Ala Arg Phe Ser Ala
 50 55 60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
 65 70 75 80

Glu Asp Phe Ala Leu Tyr Tyr Cys Gln Gln Tyr Asn Asp Trp Pro Ser
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Thr Phe Gly Gln Gly Thr
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<210> 11

<211> 118

<212> PRT

<213> Homo sapiens

<400> 11

Leu Leu Glu Glu Ser Gly Ala Glu Val Lys Lys Pro Gly Ser Ser Val
 1 5 10 15

Lys Val Ser Cys Lys Thr Ser Gly Asp Thr Phe Arg Tyr Gly Ile Thr
 20 25 30

Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Gln Ile
 35 40 45

Met Pro Thr Phe Ala Thr Ala Thr Tyr Ala Gln Arg Phe Gln Gly Arg
 Pagina 7

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burioni.ST25.txt
50          55          60
Val Thr Ile Ser Ala Asp Glu Ser Thr Ser Thr Ala Tyr Leu Glu Val
65              70              75              80
Arg Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Thr Pro
85              90              95
Arg Gln Val Thr Ile Leu Arg Gly Pro Lys Ala Leu Ser Pro Trp Asp
100            105            110
Tyr Trp Gly Gln Gly Thr
115

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| <210> | 12 |
| <211> | 102 |
| <212> | PRT |
| <213> | Homo sapiens |

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<400> 12
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20     25     30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35     40     45
Ser Gly Ala Ser Thr Arg Ala Thr Gly Val Pro Ala Arg Phe Ser Gly
50     55     60
Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65     70     75     80
Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Asn Trp Pro Pro
85     90     95
His Phe Gly Gln Gly Thr
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| <210> | 13 |
| <211> | 357 |
| <212> | DNA |
| <213> | Homo sapiens |

burioni.ST25.txt

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 caggggcttg agtggatggg atggatcagc ggatacacc atgagacaaa atatgcacag 180
 agtttccagg gcagagtcac catgaccgca gagacatcca cgggcacagc gtatatggag 240
 ttgaggagcc tgcggtctga cgacacggcc acatattact gcgcgagaga tggaggaggg 300
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<211> 312

<212> DNA

<213> Homo sapiens

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 cctggccagg ctcccaggct cctcatctct ggtgcatcta ccagggccac tggcatccca 180
 gacaggttca gtggcagtgg gtctggaaca gacttcactc tcaccatcag cagactggag 240
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<210> 15

<211> 372

<212> DNA

<213> Homo sapiens

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 cagtccccag ggaagggcct ggagtggatt ggccacatct actactttgg agacaccttc 180
 tacaacccgt ccctcaacaa tcgagctacc atatcaatag actcatccaa aaaccagttc 240
 tccctcaagc tcaagtctgt gactgcctca gacacggccc tgtatttctg tgccaggagc 300
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burioni.ST25.txt

<212> DNA

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| atcacttgcc gggccagtca gggcgtcacc attcttttag cctggtatca gcaaaagcca | 120 |
| gggaaacccc ctaaggccct gatattatgct gcatcgtctt tgcaaagtgg ggtcccatca | 180 |
| aggttcagcg gcagtgggtc tgacacagat ttactctca caatcagcag cctacagcct | 240 |
| gaagattctg caacttatta ctgtcaacaa cttaacactt acccgtggac gttcggccag | 300 |
| gggacc | 306 |

<210> 17

<211> 348

<212> DNA

<213> Homo sapiens

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| gagtggatgg gcggtatcat ccctgtcttt ggcacaacta cctacgcaca gaagttccag | 180 |
| ggcagagcca ccattaccgc ggacgactcc acggggacgg ccttttttgg gctgaccaga | 240 |
| ctgacatttg acgacacggc cgtctatttc tgtgcgacac ctcaccaact gcatgtcctc | 300 |
| cggggcggtg aagccctctc cccctgggac tactggggcc aggggaacc | 348 |

<210> 18

<211> 306

<212> DNA

<213> Homo sapiens

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| ctctcctgca gggccagtca gagtgttagc agtaacttag cctggtacca gcagaaacgt | 120 |
| ggccaggctc ccagtctcct catctacgga acatctacca gggccactgg tatcccagcc | 180 |
| aggttcagtg gcagtgggtc tgggacagag ttactctca ccatcagcag cctgcagtct | 240 |
| gaagattttg cagtttatta ctgtcagcag tataatgatt ggccctccac cttcggccaa | 300 |
| gggaca | 306 |

burioni.ST25.txt

<210> 19

<211> 360

<212> DNA

<213> Homo sapiens

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| aagacttctg gaggcacctt cagcacctat actttcagct ggggtgcgaca ggcccctgga | 120 |
| cagggacttg agtggatggg ggggatcacc cctatcattg gcatcgcaaa ctacgcacgg | 180 |
| aacttcagg acagagtcac catcacgcg gacgaatcca cgagcacggt ctacatggag | 240 |
| gtgaggaggc tgagatctga ggacacggcc gtatattatt gtgcaaaac ttcggaagta | 300 |
| acagccacta gagggcggac tttcttctac tccgctatgg acgtctgggg tcaagggacc | 360 |

<210> 20

<211> 306

<212> DNA

<213> Homo sapiens

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| gggaaagccc ctaagtcct gatctatgct gcatccactt tgcaaagtgg ggtcccatcg | 180 |
| aggttcagcg gcagtggatc ttggacagaa ttcactctca caatcagccg cctccagcct | 240 |
| gaagattttg caacttatta ctgtcaacac cttataactt acccgtggac gttcggccaa | 300 |
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<211> 354

<212> DNA

<213> Homo sapiens

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| acgacttctg gaggcacctt gagcgactat ggtttcaact gggtacgaca ggcccctgga | 120 |
| caagggcctg agtggatggg agggatcatc cttttgtttc gaagaacaac ctacggacag | 180 |
| aagttccagg gcagactcac cattaccgcg gacgagtcca cgggcgcaac ctacatggag | 240 |

burioni.ST25.txt

| | |
|---|-----|
| ctgagcagcc tgagatctga cgacacggcc gtctattact gtgcgagaga gaaagtttcg | 300 |
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<210> 22

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<212> DNA

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| ggccaggctc ccagtctcct catctatgac acatcttcca gggccactgg tgtcccagcc | 180 |
| aggttcagtg ccagtgggtc tgggacgcag ttcactctca ccatcagcag cctgcagtct | 240 |
| gaagattttg cactttatta ctgtcagcag tataatgatt ggccctccac cttcggccaa | 300 |
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<212> DNA

<213> Homo sapiens

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| aagacttctg gagacacctt cagatatggt atcacgtggg tgcgacaggc ccctggacaa | 120 |
| gggcttgagt ggatgggaca gatcatgcct acgtttgcga cagcaacctc cgcacagagg | 180 |
| ttccagggca gagtacgat ttccgcggac gaatccacga gcacagccta cttggagggtg | 240 |
| cgcagcctga gatctgaaga cacggccgtc tattactgtg cgacacctcg ccaagttact | 300 |
| atacttcggg gacctaaagc cctctcccct tgggactact ggggccaggg aacc | 354 |

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<211> 306

<212> DNA

<213> Homo sapiens

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| ctctcctgca gggccagtca gagtgttagt agcaacttag cctggtacca gcagaaacct | 120 |

burioni.ST25.txt
ggccaggctc ccaggctcct catctctggt gcatccacca gggccactgg tgtcccggcc 180
aggttcagtg gcagtgggtc tgggacagag ttcactctca ccatcagtag cctgcagtct 240
gaagattttg cagtttatta ctgtcagcag tataataact ggcctcccca ctttgccag 300
gggacc 306